

AMENDMENTS TO CLAIMS

1 (Currently amended). A silent chain power transmission apparatus comprising:

an endless silent chain comprising a multiplicity of link plates connected in interleaved relationship by a multiplicity of connecting pins, each of said link plates having a pair of V-shaped teeth and a pair of pinholes for fitting said connecting pins, the V-shaped teeth of each said pair having opposed inside tooth faces defining insides thereof and outside tooth faces defining outsides thereof; and
a sprocket having a plurality of teeth in intermeshing relationship with said V-shaped teeth of said link plates;
said inside and outside tooth faces being positioned to satisfy the expression $H_i = H_o + H_s$, where H_i is the distance from a pin center line, passing through the centers of a pair of said connecting pins, to a pitch line of the inside tooth faces of a link plate in which said pair of connecting pins is fitted, H_o is a distance from said pin center line to a pitch line of the outside tooth faces of a link plate in which said pair of connecting pins is fitted, and H_s is the amplitude of polygonal motion of said chain; each of said link plates having a concave bottom surface continuing from and defined between its opposed inside tooth faces at a position to avoid interference of said concave bottom surface with corresponding tooth edges of said sprocket teeth, which arises due to said polygonal motion when said outside tooth faces of said link plate are brought into meshing contact with said sprocket teeth and become seated thereon; and

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said inside tooth faces having profiles identical to tooth profiles, arranged axially, of a hob cutter capable of forming said teeth of said sprocket; wherein the concave bottom surface of each of said link plates is an arc-shaped surface scooped out more deeply than an arc tangent to said opposed inside tooth faces.

2(Previously amended). A silent chain power transmission apparatus according to claim 1, wherein said V-shaped teeth have tooth edges profiled at a position where interference of said tooth edges with root bottoms defined between opposed ones of said teeth of said sprocket, which arises due to said polygonal motion when said outside tooth faces of said link plates are brought into meshing contact with said opposed ones of said sprocket teeth and become seated thereon, can be avoided.

3(Cancelled).